

Postdoc Spotlight



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Q: In what field is your PhD? How did you specialize in biophysics?

My PhD is in Chemical Physics, working with Dave Thirumalai, University of Maryland College Park, and Bernard Brooks, NIH. I focused on theoretical and simulation modeling of protein folding and amyloid formation.

Q: What initially attracted you to the field?

I realized there was a gap in my knowledge, that to understand biology at a fundamental level I needed a stronger physical science background. Biophysics was a natural fit.

Q: What is your current research project?

My postdoctoral research with *Chris Dobson*, and collaborators *Michele Vendruscolo* and *John Christodoulou* has focused on understanding cotranslational protein folding at the molecular and cellular levels and the impact of translation elongation rates on this self-assembly process.

Q: What skills and experiences have you gained from your postdoc position?

My five years as a postdoc have been phenomenal. I've had a chance to teach an undergraduate course at the University of Cambridge; organize a three-day CECAM workshop in Switzerland; write several big grants that got funded; and, most importantly, I've had a chance, as a theorist, to work in a predominantly experimental lab. This experience has allowed me to recognize what the cutting edge questions are in the field and where my skill set could help advance scientific knowledge.

Q: What do you hope the next step in your career path will be?

This January I am starting as an Assistant Professor at the Chemistry Department at Pennsylvania State University.

Q: Why did you join the Biophysical Society?

The BPS is the largest professional organization of biophysicists and runs excellent national meetings that are highly relevant to my research program—I'd be at a disadvantage if I were not a member.

Q: If you were not a biophysicist, what would you be?

When I was mid-way through my PhD and in that slump many PhD students experience—my research project wasn't moving fast enough and didn't seem to be working out—I entertained the notion that if I couldn't do what I love (basic science research), then I might as well choose a career alternative that would at least pay better. So I was considering going to law school for patent law. Fortunately, things turned around and my PhD was successful.

Chris Dobson, Edward's PI says:

Ed came to my laboratory with an excellent background in theoretical biophysics. At that time, my group had established a very ambitious collaboration with John Christodoulou, at University College London, to develop and use experimental methods based on NMR spectroscopy for probing the folding of nascent chains as they are synthesised on the ribosome. Ed immediately realized that it was possible to use coarse grained simulation methods to model such processes, both to help interpret the experimental data and to probe new aspects of the kinetics and thermodynamics of co-translational folding. Working with *Michele Vendruscolo*, Ed was able to make tremendous advances and to extend his research activities into areas that I had not imagined possible. The way that he has brought together theoretical and experimental biophysical techniques to advance a complex and important field of science is extremely impressive.